

# EDINBURGH CHAMBERS' JOURNAL

CONDUCTED BY WILLIAM AND ROBERT CHAMBERS, EDITORS OF "CHAMBERS'S HISTORICAL NEWSPAPER."  
AND "INFORMATION FOR THE PEOPLE."

No. 99.

SATURDAY, DECEMBER 21, 1833.

PRICE THREE HALFPENCE.

## PROMPTITUDE.

To be prompt in action, is a most invaluable qualification. The man who is constantly in doubt is incapable of managing great affairs. His knowledge may be extensive, his penetration quick, his understanding enlarged, his imagination vigorous; he may be candid and courteous, generous and noble-minded; he may possess every quality which is calculated to fascinate in conversation, and be able to explain difficult cases with such plausibility as to make all who hear him believe there is nobody better fitted for business: still he is worse than useless in action. He sees clearly the advantages that must result from the success of a scheme; but then he perceives with equal distinctness the obstacles which stand in the way of its execution. He weighs the one against the other, and over again weighs them; and he cannot arrive at a decision. No man understands all the niceties—the logical distinctions—of a question half so well, or deliberates half so profoundly, as he does; but nobody can be less the better of a piercing reach of thought, and a painful exercise of the faculties of judgment: for with him the end of all is the hopeless exclamation, "What to do, I cannot tell!" In the mean time, opportunity flies; and he enters upon the consideration of some other matter with the same unprofitable waste of thought. It is extremely hazardous to employ persons of this description in any transaction of importance, unless their part in it be such, that, like sailors, they are told "they have no business to think;" but as companions or counsellors, their value is considerable, because they drop numerous hints, which, used by those who know how to use them in time, turn out to be of infinite consequence.

In war, irresolution is especially disastrous. The general, sitting in his tent with his principal officers, may "deliberate in cold debate" until the enemy enter, and call upon them to surrender. Julius Caesar used to say that great exploits ought to be executed without waiting for consultation, lest the contemplation of danger should cool the first ardour of courage. Promptitude of decision and of action are, besides, indispensable in commanders, inasmuch as their motions and actions are for the most part sudden, on account of the daily occurrence in a campaign of events and vicissitudes which could neither be foreseen nor provided against. In these circumstances, presence of mind is of greater advantage than a head more sagacious but slow in its operations, and often achieves the most splendid victories. Great conquerors have commonly possessed this quickness of capacity in an eminent degree; as may be instanced in Caesar, and, above all, in Bonaparte. A readiness of repartee is also of no small consequence, on some occasions, to the leader of an army. Two or three words aptly thrown out in the heat of the moment, produce much more effect upon soldiery than a studied and stately harangue. "England expects every man to do his duty" was far more inspiring than all the speeches in Livy would have been, if they had actually been delivered.

Indecision and irresolution fail in all; the power of deciding in sudden emergencies, and vigour in action, gain a part; but it is only forethought and prudence that secure permanent benefits. People are too apt to imagine, that what is called "the nick of time" is a period which arrives, unexpectedly, but once in a man's life—that "the tide, which, taken at its height, doth lead to fortune," offers to the adventurer no more than a single flow—they sit down accordingly, and "wait to see what will cast up," resolved that no minor occupation shall engross their attention, and prevent them from snatching the grand

opportunity when it comes. This conduct is as foolish as it would be to remain at the bottom of a mountain in the hope of acquiring agility enough to leap at once to the summit, in order to avoid the labour of ascending step by step. There are undoubtedly some events which promote a man's fortunes more than others, and seasons when his affairs begin to prosper better. But the wise man knows that these seldom happen fortuitously. What is "the nick of time?" It is the moment when the iron is hot enough for hammering—the industrious smith knows it well, and brings it about for himself hundreds of times in a day. When is the tide fortunate? Whenever it flows deep enough to carry the ship out of harbour—the prudent merchant knows its periods, and has his vessel ready loaded to sail with it. These, and such as these, are the lucky eras "in the affairs of men;" they present themselves, not once in the "threescore and ten years," nor once in a year, but daily, hourly, every minute; they who embrace them, thrive; they who neglect them, never do well. "The nick of time," we might have said, is nothing else but the present time, which always brings with it something needful to be done—some duty, manual or mental, to be performed. If these be not in their turn regularly accomplished, we not only miss "the nick of time" now, but throw ourselves out of all reckoning with regard to it for the future.

The man who finishes his work—of whatever kind it may be—in due season, need scarcely fear that he will ever experience any disadvantage from the want of presence of mind. He is always unembarrassed, and whatever comes to his hand, he is ready to execute. Few emergencies harass him, because he is prepared for them beforehand. On the contrary, he whose indolence or folly causes him to procrastinate, is always in a hurry, and never does any thing well. He can never extricate himself from confusion; and a small thing is to him an emergency, inasmuch as, when the time for undertaking it arrives, he is never ready to begin. The business of to-day he puts off till to-morrow; and when to-morrow comes, finding he has the work of two days on his hands, and that to go through it would cost him unusual labour, he says to himself once more, "It will be time enough to-morrow," and postpones all till the third day. Thus he proceeds, accumulating in his progress a multitude of dilemmas, from which no earthly prudence or presence of mind is capable of extricating him. We have known men of this kind, who led far more laborious lives, every thing considered, than those who did three times as much work. They would forfeit their sleep two nights in the week, slaving and toiling at a business, which, if taken in proper time, and by proper arrangements, could have been very easily accomplished. To act wisely, therefore, in the business of life, we must always combine forethought with promptitude—we must bring mind into play. A well-disciplined mind, which, at a glance at all sides of a subject, can see where the difficulties lie, and how they are to be surmounted, is seldom at a loss in acting promptly and yet prudently. Promptitude without forethought, or the power of acting wisely on the spur of the moment, is of no use, or worse than useless, for it amounts to precipitancy; besides, it is often necessary, in human action, to proceed with deliberate caution—to go on patiently for a time in a dull routine of duty before the period arrives that is to produce the glorious result we anticipated. This is eminently the case in all that relates to works of art. The famous Michael Angelo, who was very long about his works, said, "that in arts haste was good for nothing, and that as nature takes much time in forming what

is to last long, so art, which strives to imitate nature, ought to work leisurely; it being impossible for man to do any thing that is excellent in haste." Thus, even in some of the higher departments of art, where genius comes into play, long labour and careful execution are indispensable to success. Those who work at ordinary professions may likewise be assured that prudence and persevering industry are no less necessary in their case, and that the only way to hit "the nick of time" is, to be constantly busy in their employments.

## THE LITTLE MAN WITH THE WIG.

ONE morning, I was about to leave Kendal by the stage-coach for the south. While the vehicle was getting ready, I ascended to the box, which, for many sufficient reasons, I always select in good weather. There I spread my cloak on the seat, by way of establishing my right of prepossession; and as the coach was not to start for some minutes, I descended to stretch my legs—not that I was then in need of such exercise, but perhaps from some vague idea of meeting the coming disease. On returning to re-ascend, what should I behold but a little shred of a man occupying the place which I had laid out for my own comparatively portly person! He was an old withered little creature, dressed in a brown greatcoat, and a grey worsted wig; and it was evident, from the firm projection of his under lip, and the keen settled eye with which he regarded me as I approached, that his mind was completely made up on the subject of his intrusion. I addressed him, nevertheless, with a respectful request that he would give me that place, which he might observe from my cloak, had been bespoken before he came upon the ground. "I am first here," said the little man, in a broad Cumberland dialect, "and ma mooney is as good as yours, I reckon." "But the rules of travelling, sir," said I mildly. To all my remonstrances, however, he only answered, "Ma mooney is as good as yours;" and so I had to give up the point.

I was entreated to go inside, where there was only a single lady; and though it is as hard to be obliged to take an inside place instead of an out, as it is to drink porter in place of small beer, I half thought of complying; only, while I put on my gloves, I begged the coachman would understand, that, in case it rained, which I foresaw it would (and some drops fell in confirmation of my opinion), we were not to be intruded upon by wet outside passengers. "Oh!" said the little man, "I can put oop my umbrella." "Yes," I replied, "if you want to bring the lightning upon yourself and the coach!" "It wont thoander, will it?" "It looks like it, sir," said the coachman drily. "Then I am in!" said the little man. "I protest against that," said I. "I'll pye the defference," said the little man, and down he swung. The money was pocketed, and I took my seat on the coach-box. The sun immediately shone forth, having been merely raising the vapour for the forenoon, and we set off with the usual noise and velocity.

The drive for several miles was delightful, and the coachman was good enough to pause a minute at Leven Hall, that admirable specimen of an old English manor-house, so as to admit of our enjoying the sight of its antique gardens. We had not been again in motion above a minute, when something like a female scream from the interior broke through the rattle of the wheels. "What can the little man in the wig have been doing—what is it?" burst from us all. It soon appeared that the little man in the wig had stretched out his head to see the gardens, and, in pull-

ing it back, had knocked off his hat, which was lying a little way behind on the road. This he pointed out to the coachman, who, contrary to all proper rules, but with abundance of good nature, went back to fetch it.

The horses had just started when another shout was heard, louder than before, from the same little wretch in the wig. It appeared he had lost his infernal wig at the same time with his hat, but only missed it upon finding his hat too large. With equal promptitude, but less good will, the coachman went back again and brought the wig, but vowed he would not alight a third time, if he should have lost his head. This served for the first stage.

We reached Millthorpe, and changed coaches; but that was not generally known. We had hardly started, therefore, when there was again a tremendous shout. What now? The same ever troublesome passenger. He had been dosing in the left coach, and only aroused by a stable-boy going to clean him out! A fat man in black, who sat behind, was the announcer-general of these disasters, and gave them at last in such a quiet matter-of-course form, that it began to be perfectly ludicrous.

We now came to another stage, where the passengers again got down. In a few minutes, a horse in the stable gave a scream, such as he does when he is angry and kicks, and presently there was a rush to the stable-door. "Oh, nothing more than our old friend, the little man with the wig," quoth the man in black, turning quietly away; "he has been going too near a horse, and has been kicked." The little fellow came out, looking most ruefully. "The ungrateful brute! I only poot ma hand on him in kindness!" said he; and finished the sentence by squeezing his knee. "He doesn't understand you," said the coachman; "come, bundle in." "I would rather go a-top," said he, "and there is room." "Well, well." I had given my seat to the lady, who felt the coach too close, and I began to find the country not interesting; so I went inside, and was alone. To divert myself in these circumstances, I began of course to think of home, which to every man is or ought to be a refuge of pleasant thought.

Crash!—Hullo! "What's that now?" cried the coachman. "The little man in the wig," quoth the man in black. "What has he done?" "Only broken one of the coach windows." "Well, if a have broken a window, I'll pye the window." "You have broken it," said I; "and, what's more, my meditations." "Your what?" "A meditation, sir, that I wouldn't have had broken for money." "If t'ou canst show me that I ha' broken only thing that had a reet to be in ma waye, I'll pye it—a can do no more." The little fellow, in trying to find ease for his bones, which were probably cropping out a little too much, had turned to the side of the coach, and one of his boots, not being restrained by the slackened sinews of his knee, had come in contact with the pane. The damage, however, was paid, and we soon after reached Lancaster.

Here we had a certain time given us, in order to see the town; and in due season most of us were once more at our posts. "All right!" cried the guard, and the coach drove off. "Noa, noa!" shouted something behind us, and the coachman looked back. "What is it?" said he. "The little man with the wig!" quoth his old cicerone. The coachman (a new one) could hardly keep his seat with laughter, as he saw the tremendously indignant stare of the little man, while he reproachfully held up his watch. "Ma time is not oop by many minutes," said he. "Look at the clock," said the coachman. "A don' mynd the clock; ma watch is reet, and I'll mantane it. Bon't her only ten days ago, and cost me four pound." "Then," said the fat man in black, "she's a dead bargain, for I see she is not going." "Not goan! a most ha' forgotten to wind her oop, a most." "No matter—mount!" and with that he once more took his seat, and we proceeded.

There are few objects of particular interest on this road for many miles; our chief amusement, therefore, was in looking after the gambols of our little traveller, and noticing how uniformly and ingeniously he contrived to be all but left behind, and this apparently without the least intention.

The coachman, it chanced, was exceedingly morose, and the old man saw it. He could therefore have no intention of using freedoms, yet every time we started after a halt, it was necessary to draw up; and the answer as to what was amiss was uniformly, "The little man with the wig!" At one time he had gone off before us, and there was first a buzz among the passengers, and then a general request to stop. "What is it?" "Only the little man with the wig; he is not in his place." He was now sought for, but could not be found. "Perhaps he left here?" The way-bill was examined. "No; he is booked to Liverpool." "Must find him then." "No; can't stop for any man. My time is up." And, after every inquiry, he was abandoned to his fate; but we had not proceeded five minutes, when there was a screech from the road-side from the object of our inquiry. While we were seeking him, that he might not be left behind, he had manfully walked on, and was wondering what had become of us, and even held up his watch in accusation.

At a little place near Preston, we had halted to change, and one of the horses was said to have met with an accident. He must do his work, however, and the coachman had mounted, when all at once it was

discovered that this wretched creature was again absent. He had gone to examine the accident, about which he knew nothing, and never dreamt of noticing that the coachman was on his box. "Strap him down with the luggage!" shouted the coachman, as the little fellow was hurried away. The guard said he would certainly get killed or lost, and we were all of the same opinion. The most ludicrous thing was the look of astonishment with which he always found himself in fault. All experience seemed thrown away upon him. He was as much taken by surprise at the fiftieth as at the first mistake. He had hardly cooled from one fret till he was in another. Scrape followed scrape, and misfortune chased misfortune, and yet the chance of farther scrapes and misfortunes seemed still undiminished.

At Preston the case became more serious than ever. He had got down as usual, and was standing at once in sight, and quite out of danger, and this by the express direction of the coachman, who at last began to relax so far as to notice the singularity of the old creature's adventures. While we were all enjoying this, and even the old man himself half joining with us, there was a scream from the people about us, and, looking round, what was it? A coach had come up, and was dashing through the archway leading from the inn-yard, when, who should be in the way but—the little man with the wig! While looking at us, he was struck by the pole, and, clinging to it, was stuck up like a forked radish upon the stone that guarded the wall, the pole close to his throat, but fortunately not upon it. His look was indescribable. It seemed to say, as plainly as look could speak, "There now! you see that, by following your directions, I am in more danger than ever!" He was picked out of his perilous situation, and hurried into the coach—the coachman half laughing, and declaring that it would not be possible for him to deliver him safely. At last he was in, and there were no farther stops; consequently, we concluded that our sport was ended. But not so. He came out on the road at the place of his destination. The bundles he had appeared almost innumerable; and the coachman, as every successive one was pulled out, cried, "is that all?" and was answered, "just another, if t'ou'll have the kindness." At last the whole seemed to have been discharged, and the little man paid his trifle, the coachman declaring he had never worked so hard for anything in his life; so we started, congratulating ourselves on our escape. "Hallo!" from the guard. "Eh! any thing wrong?" "Yes, the little man with the wig!" said our obese friend once more. "You didn't see a green striped carpet bag," said he, almost breathless, "didst'at you?" "What! was that yours?" The guard again opened his receptacles; again rummaged them—not there! "What is it you're seeking?" shouted his friend from the door at which he had stopped, at the same time holding up the carpet bag, already delivered. "Ah! a ha' gotten it!—all reet—good day to you;" and for the last time we saw the tormenting little man with the wig!

So ends this tale of a coach goblin—for, at the time, I could hardly consider him in any other light. Perhaps, at home, as Bob Acres says, and out of harm's way, the little man with the wig was a most respectable member of society. It was evident, however, from his proneness to coach accidents and scrapes, that he was a man who, in circumstances at all extraordinary, and when forming part of a social system, was calculated to derange his own comfort and that of every person in contact with him—not perhaps from ill dispositions, but from want of attention and punctuality. There are many such characters in life; but I never met with one in a more extreme or more amusing form than the **LITTLE MAN WITH THE WIG**.

#### THE MUSCULAR POWER OF ANIMALS.

THE muscles of an animal are a bundle of soft red cylindrical, and nearly unelastic threads, formed out of a substance called by chemists fibrine; which, when microscopically viewed, are seen to divide and subdivide into still smaller bundles of thread, parallel to each other, and bound together by a delicate cellular net-work, obviously of a different nature. They are uniformly accompanied through their course by a number of very minute nerves, which are cords or tubes that originate from the brain, and branch out in every direction, by which means a perpetual communication is kept up between the sensorium and the remotest parts of the body. While the sensitive fibres of the ear are excited by the stimulus of sound, those of the eye are only excited by the stimulus of light, the one remaining totally unmoved by that which puts in motion the nerves of the other. The lungs are excited by the stimulus of the air; the stomach to that of digestion, by the stimulus of the food introduced into it; the heart by the stimulus of the blood, and so on; and every sensation, as it occurs, is instantly conveyed by the nerves to the brain. But the brain, which by this means receives intimation of the different actions occurring throughout the system, has a voluntary motion originating in itself, the will being the exciting cause, giving birth to what is called the

stimulus of volition, and thus bringing into action the external powers of the body.

By this it appears that there are two distinct systems in the mechanism of the body, the one animate, the other inanimate, which in one case the living power exercises an influence totally different from the other.

Various calculations have formerly been made relative to the functions of the animal frame, which in their results have been curiously at variance: Borelli estimated that the force with which the heart must contract, in order to cause the circulation of the blood in man, is equal to not less than a hundred and eighty thousand pounds weight at every contraction; while Keil could not estimate it at more than eight ounces. Borelli, in applying the same theory to the power with which the human stomach digests its food, calculated it, in conjunction with the assistance it receives from the auxiliary muscles, which he conceived to divide the labour about equally with itself, as equal to two hundred sixty-one thousand one hundred and eighty-six pounds; and Pitcairne has made it very little less, since he estimates the moiety contributed by the stomach alone at one hundred and seventeen thousand and eighty-eight pounds, which gives to these organs jointly a force more than equal to that of twenty millstones. "Had he," says Dr Monro, "assigned five ounces as the weight of the stomach, he had been nearer the truth."

The digestive functions are now so perfectly understood, that the above theory is of course altogether overthrown; for although the stomach participates in a small degree in the process of digestion, yet this important operation is almost entirely performed by a powerful solvent, secreted by the stomach itself, called the gastric juice, and which answers all the purposes which the most violent muscular pressure could produce, and at the same time with the utmost simplicity of contrivance.

With regard to the circulation of the blood, so far as it is now understood, it is caused by a double projective power, one portion being dependent on the living principle in the heart, and the other on the vacuum produced in the heart by that contraction which has propelled the blood, returned from the lungs into the arterial system, whence the heart itself becomes alternately a forcing and a suction pump, having the former in respect to the arteries, and the latter in respect to the veins. Different persons, though of the same size and appearance, do not possess uniformly the same strength, for the fact is well known, that the muscular powers of the human body become greater in proportion to their being used, provided they are not exhausted by violence or over-exertion. It has been calculated that the average weight carried by a stout porter in the city of London averages about two hundred pounds, while it is said that there are porters in Turkey, who, by accustoming themselves to this kind of burthen, can carry from seven hundred to nine hundred pounds. Some years ago there was a man at Oxford who could hold out his arm extended for half a minute, with half a hundred weight hanging on his little finger.

The following estimate of the comparative powers of men, horses, engines, and mills, may be found interesting:—The common labourer may be said to employ a force capable of raising a weight of ten pounds to the height of ten feet in a second, and continued for ten hours a-day. A moderate horizontal weight for a strong porter, walking at the rate of three miles an hour, is two hundred pounds; the chairman walks four miles an hour, and carries one hundred and fifty pounds; the daily work of a horse is equal to that of five or six men upon a plane, but from his horizontal figure, if drawing up a steep ascent, it does not exceed the power of three or four men. In working windmills, twenty-five square feet of the sails is equivalent to the work of a single labourer; and a full-sized mill, provided it could be made to work eight hours a-day, would be equal to the daily labour of twenty-four men. A steam-engine of the best construction, with a thirty-inch cylinder, has the force of forty horses, and, as it acts without intermission, will perform the work of one hundred and twenty horses, or of six hundred men daily, every square inch of the piston being equal to the power of a labourer.

The consideration of the wonderful power of the human muscles naturally leads us to the contemplation of those possessed by the inferior animals. The elephant is capable of carrying a burden of between three and four thousand pounds with its trunk, which has been calculated to consist of upwards of thirty thousand distinct muscles. It snaps off the stoutest branches of trees, and tears up the trees themselves with its tusks. The lion, with a single stroke of his paw, can break the back-bone of a horse, and run off with a buffalo in his jaws at full speed. In the tail of the whale lies the chief strength of the animal: with this powerful instrument it shatters the long-boat of a ship to pieces. The shark, which is often thirty feet long, and of not less than four thousand pounds weight, has been known to swallow a man whole at a mouthful. The eight-armed cuttle-fish, found in the Indian seas, has arms nine fathoms in length; and when lashed round a man, it is found so very difficult to escape, that the Indians always carry a hatchet with them in their boats, to cut off the arms of the animal should he attempt to lay hold of them and drag them under water. And such is the strength

possessed by the eagle of the Alps, that it has been frequently known to carry off children in its talons.

Among the insect tribe, a wonderful diversity of muscular powers are discovered: there are many species which unite in themselves all the powers of motion which are possessed by the superior animals separately. They can walk, run, swim, or fly, with as much ease as quadrupeds, birds, and fishes. Such a combined medley of locomotive functions must require an equal diversity of motive power, and such is the fact. In the mere larva of the caterpillar, when in a state approaching to a butterfly, Lyonet has discovered not less than 4061 distinct muscles, which is about ten times the number that belong to the human body; and it is probable, that, when the insect arrives at its perfect state, the number will be much greater. The phosphorescent springer, a winged insect, has the extraordinary power, that, when laid on its back, it can spring up half a foot in order to recover its position. This insect, also, secretes a light, so much stronger than that of the common glow-worm, that a person may see to read the smallest print with it at midnight. Crabs and spiders can throw off an entire limb, when seized by it, in order to make their escape. The land-crab travels once a-year from the woods which it inhabits to the sea, to deposit its spawn, which sinks into the sands at the bottom of the sea. After a short time, millions of little crabs thus hatched are seen quitting their native element, and making their way to the woods. The hinge of the common oyster is a single muscle, and that belonging to the great clam-fish is no more. This animal is of the oyster kind, and has been taken in the Indian Ocean of a weight not less than five hundred and thirty-two pounds, sufficient to furnish a hundred and twenty men with a meal. It is able, by the means of this single muscle, to cut off the hand of a man, or snap asunder the cable of a large ship.

#### AN EAST INDIAN STORY.

ABOUT two years before my arrival at Bombay, a Lieutenant Bellarmine had disappeared in a mysterious way, which left it uncertain whether he had fallen in a skirmish with a body of Pindarees, or if, as was reported on some unascertained authority, he had joined these wild depredators, and remained willingly in some of their fastnesses. His previous habits gave a sort of colour to this strange story, for he was known to be a rash, thoughtless lad, distinguished for his bravery, but continually involved in all sorts of quarrels and debt. He was on this account out of favour with most of the superior officers, but was, notwithstanding, a good deal liked in society, from the frank, generous tone of his conversation, and a certain rattling agreeable merriment, which used to thaw the stiffness of Bombay hospitality into involuntary good humour. To these qualities he probably owed his union with a very amiable woman, whom his irregularities and ultimate disappearance left at the presidency in a state little short of distraction. His own fate only gave rise to wonder and curiosity, but that of his wife excited universal commiseration. Had there been authentic accounts of the death of her husband, her situation would have been much less distressing; for she could then have embarked at once for England, where, though her friends were poor (as was reported), her allowance as an officer's widow would at least have placed her above want. In her present situation she was pitied and respected by every one. No aid that she could have wished for was wanting, but she uniformly declined every attention, except that of one or two friends, relations, it was understood, of her husband. It was at the residence of one of these gentlemen that I first saw her.

During the dry season, the English inhabitants of Bombay generally quit their houses within the confined walls and streets of the town, and betake themselves to temporary residences erected on a small green plain between the fortification and the sea. Some of these annual edifices are spacious erections, with a court-yard, stables, kitchen, huts for servants, &c., all constructed of poles and the woody reeds of the country; the dwelling-places being made tight by a coat of clay plaster; another set of residences consist of large tents, which are generally occupied by gentlemen of the military service, and whose clean white appearance as they stand scattered over the green, with the black servants moving about among them, and the horses or sometimes a camel piquetted in front, give peculiar animation to the scene. It is best enjoyed from the opposite rising ground on the Bombay esplanade, where the sea in the distance, and the background of the little island of Colabah, studded with palm-trees, are added to the picture. I had been out one evening with a military friend, of the name of Malloch, on this walk, and had lingered till long after sunset, enjoying the coolness of the sea-breeze. The tents still glittered white in the star-light, and we were sauntering along slowly, sometimes stopping to mark the figures that were in motion about the little camp, and once or twice to gaze on a group or two of dancers in front of some of the tents. One party who seemed to enjoy the exercise with much animation had two flute-players, whose music gave them an additional attraction. The scene altogether was uncommonly pleasing; but Malloch, whose attention was fixed entirely on the music and dancing,

after gazing till his enthusiasm was kindled, suddenly called out, "It is Eastlake's tent, I declare: let us join them; there is a lady there just now whom I have long wished to see." "We may go, I dare say," said I, knowing how difficult it would be to keep back my impetuous companion, and aware that we could meet with nothing but the kindest reception from my gallant friend and his hospitable lady.

We accordingly paced downwards across the esplanade, and, leaving the rail by which it is surrounded, soon found ourselves approaching the dancers. The vivacity of the scene was greatly heightened as we drew near and could distinguish the appearance and even the voices of some of the party; but I began at the same time to feel the awkwardness of intrusion, and wished I had been less ready in yielding to my flighty companion. Just in time to save us from embarrassment we met my friend Major Eastlake, who had himself come out so far from the tent in order to enjoy the scene at a little distance. He immediately invited us to join the party; and as we accompanied him thither, he mentioned that he had received directions to take the command of a detachment ordered to embark in a day or two for Ahmednuggur, and that some of his friends had come to bid him adieu on that occasion.

When we joined the company, each of us found several acquaintances; and Malloch was very soon engaged with the dancing and music, being himself an admirable performer on the flute. After some time, he began to look round for a partner; and passing by the ladies who were nearest, he went to address himself to one who sat by herself—with some appearance of being neglected—in a corner of the verandah. I observed that his first motion towards her was noticed by Major Eastlake with a kind of displeased surprise, and that he made a step as if to arrest my companion's intention; he was, however, too late; Malloch, with his usual impetuosity, having already approached and requested the honour of her hand. The lady only replied by a slight shake of her head, and a motion of dissent. At the same moment, Major Eastlake came up, and said to her, with a peculiar manner, which Malloch ought certainly to have felt as a rebuke, "this is my friend Mr Malloch, madam; Mrs Bellarmine does not dance, Mr Malloch." Malloch, who of course knew the history of the young lady, seemed hurt at his own forwardness, and answered by a respectful bow, begging pardon for his intrusion, but hoping that Mrs Bellarmine would not be offended. The lady only answered by a very slight inclination of her head, and a melancholy smile, while Major Eastlake listened to every word with obvious impatience. Malloch was at length led away, and immediately came to the seat next mine. "What a lovely creature!" he said; "she is more beautiful than ever." "More beautiful than ever!" I replied; "you have seen Mrs Bellarmine before, then?" "Years ago," answered he. "I saw her before she had any thoughts of coming to India, or being left in this deserted state, by the fool whom she married. I wish you could be introduced to her." "Not if it were to drive me mad, as it appears to have done you, Malloch," I said; "you should have respected her seclusion from the company; and I hope you will recollect how highly she is regarded by Major Eastlake and his lady." "Oh, she does not need their recommendation to me: but I am acquainted with Mrs Eastlake; the major is a stiff old boy, but he is going in a day or two, and I shall then have a better introduction than this."

As he was speaking, I observed Major Eastlake's attention directed towards me, and a slight motion intimated his wish that I would make my way to him. I was soon by his side; and after a few words on indifferent matters, he said, "I notice that your acquaintance is inclined to direct his attention towards our poor friend Mrs Bellarmine. I know that any thing of that kind—particularly from a volatile person like Malloch—is disagreeable and inconvenient to her; and I therefore take the liberty of imposing on you the task of guardian, which no one else can undertake so well without the risk of offending your friend, or of being officious to Mrs Bellarmine." I bowed, as to one whose good opinion I highly valued, and he immediately turned and introduced me to the lady. She looked up, and I think I never beheld a face of more engaging loveliness; she was dark-haired and dark-eyed, with something of the usual paleness of English ladies who have resided a few years in India; but her complexion had a purity and brightness which I have seldom seen equalled; and her fine regular features, though marked with settled melancholy, responded with quiet intelligence to every thing she deigned to notice in conversation. I entered into discourse with her for a few minutes, and found her a remarkable exception to most of our oriental dames, who are generally brimming over with all manner of gossip, about matters of precedence at balls, scandal at private parties, the debts and embarrassments of acquaintances, and all the other nick-nackeries of their limited society. She either did not know, or did not speak of these matters; and I was thrown upon literary conversation in order to say something. She answered here with intelligence; and I soon found that she lived in a secluded land of poetry and imagination, which is but little trod by oriental ladies. Her sorrow and retirement had blunted her relish for society, but had not destroyed her mind. All her tastes, however, seemed of a serious character: Cow-

per, Beattie, Graham, Montgomery, supplied her with the richest and most beautiful allusions; but of the fierce, mistrustful, and irregular Byron, she did not seem to recognise a line. The readiness with which she appreciated my remarks, and the overflowing yet delicately selected stores of her own memory, made me no longer wonder at the deference with which she was regarded by the few friends to whom she allowed herself to be known.

As we were departing, Major Eastlake said to me "You will not now wonder at the interest we take in Mrs Bellarmine. Her situation is rendered more painful by the conflicting rumours which are continually brought concerning her husband, to whom she is sincerely and devotedly attached; for, notwithstanding his follies, he knew and respected her value. Her distress, I really believe, arises chiefly from the imputations which have been cast on his honour. For myself, I give no credit to them. I know that poor Henry was rash and imprudent; but he was a soldier-like spirit, and could never have turned renegade. My new situation will soon give me the power of making effectual inquiries concerning his fate. If he is alive, I shall certainly find means to reach him, and, if he has fallen honourably, it shall be ascertained. In the meantime, I beg again to repeat my charge, for I have heard and seen enough of Mr Malloch to fear that he is capable of causing uneasiness." He took leave of me with these words, and I did not see him again before he embarked.

His precautions, however, rather accelerated what he feared. Malloch was piqued at the notice bestowed upon me; and he had not boasted in vain of his acquaintance with Mrs Eastlake, who by no means took the same interest in the fate of Lieutenant Bellarmine as did her uncle the major; and firmly believing him to be dead, she had even great pleasure in the prospect of managing a new match for his widow. Malloch had even the art to render my visits somewhat less acceptable to this lady than they were wont, so that I had but few opportunities of learning what was going on. Once or twice when I called, Mrs Bellarmine spoke to me with feelings of the deepest regard concerning her husband, without seeming once to have had her confidence in him shaken; and she mentioned, that, if Major Eastlake ascertained any thing concerning him, he would write first to me on the subject. I alluded once to the circumstance which Malloch had mentioned, that he had met her in England. "Captain Malloch is Mrs Eastlake's guest here," she said, "and I can do nothing that is rude to him; but at no period, either in England or in India, have I seen reason to consider him a man of delicacy or honour." She said no more, and the subject was not again alluded to.

One day, when I had called at the house, something led me into the garden, and I was assisting the *walee* (native gardener) to train up some oriental jessamine on the end wall of a back verandah. Mrs Bellarmine had entered this part of the house in the meanwhile, and Captain Malloch, who had also arrived, joined her there. All this I gathered from conjecture; but being separated from them only by a slight partition, not in very good repair, I was apprised of their presence by the sound of well-known voices. I could not escape from hearing the following fragments of their conversation:—

"My dear Mrs Bellarmine, how often have I repeated, that your image has never once been absent from my mind since I first saw you at Greenside."

"I was then a governess in the family of your relation, Mr Malloch; and your attentions were at that time neither more agreeable nor more honourable to me than they are now. I beg you may desist from language to which I dare not, and will not listen."

"Dare not! how often have I told you that Bellarmine will never return. He was a man I never esteemed, were it for nothing but his conduct to you; but I must say that he died as a soldier should."

"How have you obtained this information, Mr Malloch?"

"I know more about Bellarmine than you suppose. I was in the same district with him at the time of the skirmish where he fell; and it was a foolish joke of mine (though it was never known) that gave rise to the absurd rumour about his having joined the enemy."

"Good God!" exclaimed Mrs Bellarmine; and then, suddenly restraining herself, she said, "perhaps your present story is a joke also."

"My dear Mrs Bellarmine, if you doubt my word, look at that letter which I have received from a sergeant who was on the field with him."

There was silence for a few minutes, only that I heard a deep sigh from the female speaker, and, in a moment after, a shriek, and then a sound as if some one had fallen down.

I hurried round to the front door, but before I could gain admission, there was a crowd of servants collected in the verandah, and Mrs Eastlake was busy chafing the temples of her friend, who lay in a swoon. Captain Malloch was standing at the opposite end of the verandah, leaning against one of its pillars, and gazing with a strange and gloomy earnestness at the scene before him. I saluted him with a manner in which I fancy he must have seen something of my present feelings, for his return was distant and haughty. It was now verging to night, and Mrs Bellarmine was removed into an inner room,

where there were lights. Malloch and I were left together, but no conversation passed; and in a short time a message was brought to us that the lady was better. I proceeded to the apartment where she was; Captain Malloch, as I observed, lingering behind, and not appearing resolved what to do.

Just as I was departing, one of my servants who had followed me thither came up, and put into my hand a letter which a *peon* (runner) had brought to my house. I took it, and went into the room where the two ladies were sitting. Mrs Bellarmine was pale, but collected, and said that she was quite recovered. Her attention seemed attracted by the unopened letter which I held in my hand; and on looking at it myself, I perceived that it was in the hand-writing of Major Eastlake. It would not be easy to describe the anxiety which the whole party now felt as to its contents: to Mrs Bellarmine's agitated mind, they seemed to hold the cup of life or death. I broke the seal. The letter was short, but full of interest.

"MY DEAR SIR—I am glad to say that I have obtained sure intelligence concerning our poor friend Henry: his honour is as untainted as the snow. He was made prisoner by the Pindarees, and is now confined in one of their hill-forts, where I have found means of communicating with him. I cannot as yet attempt his release, but he shall be restored to us. You may have heard that Malloch had a command in this district at the time of the skirmish; and it now appears that it was owing to some treachery or cowardice on his part that Henry's party was entrapped and surrounded by the banditti. These things will now be brought to light, as well as some mean forgeries which have been attempted of late, and of which a sergeant here has given an account. I am," &c.

I had read so far before perceiving that Malloch had by this time followed me into the room, and had heard part of the letter; at the last words, I was alarmed by seeing him at once dart out of the apartment with a look of distraction. I heard his footsteps running across the garden, but remained in a kind of mute astonishment, both at the suddenness of his action, and at the contents of the letter. I had hardly stood a minute in this state, when Bappoo, one of the servants, came running into the apartment with a look of terror, and cried, "Sabib! Sabib! Mr Malloch has thrown himself into the sea." The house where Mrs Eastlake lived (she had now removed into the town) was just within the ramparts, on that side where they run into the bay, and a leap from the parapet wall at high water was certain death, except to the best swimmers. If the dreadful announcement was correct, there was, in the present darkness, no chance of recovering Malloch.

I rushed, however, to the spot which the man had pointed out; and as soon as I got on the wall, I sprang to the top of the parapet to look down. The waters were tossing and weltering against the bottom of the fortifications, where I could distinguish nothing in the darkness but the indistinct heaving of a stormy sea, and the white foam which broke in white patches on the tops of its endless waves. To think that a fellow-creature was struggling in such an abyss, perhaps within reach of my aid—if his pride or remorse would allow him to call for it—was dreadful. As we were standing gazing in this anxiety, I heard one of the natives present (for several had now assembled) say to another, in his native tongue, "I see the fool sitting on a stone." My eye lighted at the moment on the object he had observed, which was certainly something white (the colour of the military undress worn by Malloch), and having the appearance of a human figure seated on a rock; but whether it was this, or merely an illusion caused by the foam which broke there, the darkness rendered it difficult to say. I called, however, for a ladder, with the intention of descending; and while the men were fetching it, I could not but picture to myself the extraordinary state of Malloch's thoughts (if it were he), which thus kept him fixed on a rock in an agony between suicide and the terror of dying—the ridicule of surviving and the disgrace of such a death. At this moment we were joined by another person, who had been approaching along the ramparts. He was a tall soldierly-looking man, in a dark military greatcoat, and was followed by a black servant. I was not aware of his presence, till informed by a kind of whispered intimation from an attendant. As soon as the stranger saw that he was observed, he asked what was the matter? I mentioned that a gentleman had thrown himself from the parapet, and pointed to the figure which we saw. "Why does not some one go down to him?" he asked. "A ladder will be brought directly," I answered. "A ladder—it will never do to wait for that. Mahommed, give me your turban; or tie your turban and girdle together, and give me the end of them." A rope was soon made of the long turbans and girdles of the natives, which was held fast by these people; while the stranger, throwing off his greatcoat, slid down the wall, and dashed into the sea. We lost sight of him instantly in the tumult of waves and the darkness, and could not tell what was to be the event. In the meantime, I inquired at the servant who his master was? "It is Mr Bellarmine, sir, arrived from Chunder." I had not time to recover from the astonishment caused by this stunning intimation, when I saw him emerge from the water on the little rock; and two figures were immediately seen standing together, and, after a little time, apparently struggling with each other.

This, in other circumstances, was only what was to be expected, as Malloch in his frenzy might refuse to be saved; but if they should recognise each other in such a situation, what would be the event? The ladder had been now brought; so that, taking a rope in one hand, I hurried down the wall, and swam to the spot so often mentioned. As I approached, the water shallowed a little, and I could stand upon my feet, in which situation I could hear and see what passed. Bellarmine was endeavouring to persuade Malloch to be saved; while the latter only answered by furious imprecations and oaths; at times saying, "Is it the dead come alive?—or what are you? I am mad—mad—mad—to meet Bellarmine swimming about in the sea! Get you gone, sir—I never hurt you—It is false—false." Bellarmine, who did not appear to recognise him, continued struggling to drag him towards the landing place; and in the meantime I came up, and got the rope fastened round his waist and shoulders. With the assistance of the men pulling on the top of the parapet, we now guided him through the water; and though it looks a little grotesque, had him dragged up the wall like a bundle of wet rags. I prevailed on Bellarmine to ascend before me, and we were both safe landed in a few minutes. Malloch was lying on the grass of the ramparts, and seemed to all appearance either dead or in a swoon. "Who is he? and what has caused this?" asked Mr Bellarmine. Before I could get time to answer, a sergeant's wife, who attended as a nurse in Major Eastlake's family, interposed—"Oh, it is Captain Malloch, sir; and he drowned himself, because he was jilted by that creature Mrs Bellarmine. I hope she may get a worse yet, now that her thriftless husband is dead, as Captain Malloch told me himself." The astonishment of Bellarmine at this abrupt intelligence cannot be conceived. He looked at me for explanation, which I gave him with the more awkwardness, that I had felt Malloch's pulse in the meantime, and perceived that he was only feigning insensibility, in order to escape being questioned. His odd situation may be conceived, in being thus tied down to hear the account which I had to give Bellarmine of his conduct.

The meeting which immediately took place between the long lost Bellarmine and his wife cannot be described. This amiable and ill-used lady, in now recovering her beloved husband, felt herself fully rewarded for her constancy and affection. On an explanation being made by Bellarmine, it appeared he was the bearer of documents which freed him from every shadow of blame. He was also able, in consequence of information which he had collected during his imprisonment among the Pindarees, to render services to government, which led to his speedy promotion. As for the wretched Malloch, the designer of so much evil, and whose infamous schemes had, in reality, proved ultimately beneficial to his victim, he was shunned by all who knew him; and shortly after, obtaining leave of absence, he departed to Europe, there to hide his shame, and to escape the ridicule of his various misadventures.

#### GAMBLING IN THE METROPOLIS.

NOTWITHSTANDING all that has been said and written in exposition of the nefarious and injurious system of gambling pursued in the gaming-houses in London, neither the constituted protectors of public morals, nor the public generally, are yet by any means aroused upon the subject. With the view, therefore, of attracting attention to this subject, we take the liberty of laying before our readers a few extracts from an excellent paper which appeared lately in *Frazer's Magazine*—a publication which contains many articles abounding in useful statistical matter relative to the metropolis.

"On an average during the last twenty years, about thirty gaming-houses have been regularly open in London for the accommodation of the lowest and most vile set of hazard players. The game of hazard is the principal one played at the low houses, and is, like the characters who play it, the most desperate and ruinous of all games. The wretched men who follow this play are partial to it, because it gives a chance, from a run of good luck, to become possessed speedily of all the money on the table: no man who plays hazard ever despairs of making his fortune at some time. Such is the nature of this destructive game, that I can now point out several men, whom you see daily, who were in rags and wretchedness on Monday, and, before the termination of the week, they ride in a newly-purchased Stanhope of their own, having several thousands of pounds in their possession. The few instances of such successes which unfortunately occur are generally well known, and consequently encourage the hopes of others who nightly attend these places, sacrificing all considerations of life to the carrying (if it be only a few shillings) their all every twenty-four hours to stake in this great lottery, under the delusive hope of catching Dame Fortune at some time in a merry mood. Thousands annually fall, in health, fame, and fortune, by this maddening infatuation, whilst not one in a thousand finds an oasis in the desert. The inferior houses of play are always

situated in obscure courts, or other places of retirement, and most frequently are kept shut up during the day, as well as at night, as if unoccupied, or some appearance of trade is carried on as a blind: a back room is selected for all operations, if one can be procured sufficiently capacious for the accommodation of forty or fifty persons at one time. In the centre of the room is fixed a substantial circular table, immovable to any power of pressure against it by the company who go to play: a circle of illaid white holly-wood is formed in the middle of the table, of about four feet diameter, and a lamp is suspended immediately over this ring. A man, designated the groom-porter, is mounted on a stool, with a stick in his hand, having a transverse piece of wood affixed at its end, which is used by him to rake in the dice, after having been thrown out of the box by the caster (the person who throws the dice). The avowed profits of keeping a table of this kind is the receipt of a piece for each *box-hand*, that is, when a player wins three times successively, he pays a certain sum to the table; and there is an aperture in the table made to receive these contributions. At the minor establishments, the price of a *box-hand* varies from one shilling to half a crown, according to the terms on which the house is known to have been originally opened. If there is much play, these payments produce ample profits to the keeper of the house; but their remuneration for running the risk of keeping an unlawful table of play, is plunder. At all these houses, as at the higher ones, there is always a set of men who are dependents on the keepers of the house, who hang about the table like sharks for prey, waiting for those who stay late, or are inebriated, and come in towards morning to play, when there are but few lookers on; unfair means are then resorted to with impunity, and all share the plunder.

About eleven o'clock, when all honest and regular persons are preparing for rest, the play commences, the adventurers being seated around the table: one takes the box and dice, putting what he is disposed to play for into the ring marked on the table; as soon as it is covered with a like sum, or set, as it is termed, by another person, the player calls a main, and at the same moment throws the dice. If the number called comes up, the caster wins; but if any other main comes uppermost on the dice, the thrower takes that chance for his own, and his adversary has the one he called. The throwing then continues, during which bets are made by others on the event until it is decided. If the caster throws deuce ace or aces, when he first calls a main, it is said to be crabbed, and he loses; but if he throws the number named, he is said to have nicked it, and thereby wins. Also, if he should call six or eight, and throws the double sixes, he wins; or if seven be the number called, and eleven is thrown, it is a nick, because those chances are nicks to these mains; which regulation is necessary to the equalization of all the chances at this game when calling a main. The odds against any number being thrown against another, varies from two to one to six to five, and consequently keeps all the table engaged in betting. All bets are staked, and the noise occasioned by proposing and accepting wagers is most uproarious and deafening among the low players, each having one eye on the black spots marked on the dice, as they land from the box, and the other on the stakes, ready to snatch it if successful. To prevent the noise being heard in the streets, shutters closely fitted to the window-frames are affixed, which are padded, and covered with green baize; there is also invariably an inner door placed in the passage, having an aperture in it, through which all who enter the door from the street may be viewed: this precaution answers two purposes, it deadens the sound of the noisy voices at the table, and prevents surprise by the officers of justice.

The generality of the minor gambling-houses are kept by prize-fighters, and other desperate characters, who bully and hector the more timid out of their money, by deciding that bets have been lost when in fact they have been won. Bread, cheese, and beer, is supplied to the players, and a glass of gin is handed, when called for, gratis. To these places thieves resort, and such other loose characters as are lost to every feeling of honesty and shame. A table of this nature in full operation is a terrific sight; all the bad passions appertaining to the vicious propensities of mankind are portrayed on the countenances of the players. An assembly of the most horrible demons could not exhibit a more appalling effect; recklessness and desperation overshadow every noble trait which should enlighten the countenance of a human being. Many, in their desperation, strip themselves on the spot of their clothes, either to stake against money, or to pledge to the table-keeper for a trifle to renew their play; and many instances occur of men going home half naked, after having lost their all. They assemble in parties of from forty to fifty persons, who probably bring on an average each night from one to twenty shillings to play with. As the money is lost the players depart, if they cannot borrow or beg more; and this goes on sometimes in the winter season for fourteen or sixteen hours in succession, so that from 100 to 140 persons may be calculated to visit one gambling-table in the course of a night; and it not unfrequently happens that, ultimately, all the money brought to the table gets into the hands of one or two of the most fortunate adventurers, whilst that which is paid to the table for *box-hands*; save that the losers separate only to devise plans by which a few

more shillings may be procured for the next night's play. Every man so engaged is destined either to become by success a more finished and mischievous gambler, or to appear at the bar of the Old Bailey, where, indeed, most of them may be said to have figured already. The successful players by degrees improve their external appearance, and obtain admittance into houses of higher play, where 2s. 6d. or 3s. 4d. is demanded for the box-hands. At these places silver counters are used, representing the aliquot parts of a pound; these are called pieces, one of which is a box-hand. If success attends them in the first step of advancement, they next become initiated into crown-houses, and associate with gamblers of respectable exterior.

The half-crown, or third-rate houses, are not less mischievous than the lowest ones. These houses are chiefly opened at the west end of the town, but there are some few at the east. In the parish of St James's, I have counted seven, eight, and nine, in one street, which were open both day and night. One house in Oxendon Street, Coventry Street, had an uninterrupted run of sixteen or seventeen years; thousands have been ruined there, while every proprietor amassed a large fortune.

The average number of these third-rate houses in London open for play, may be calculated at about twenty-five. If there were not a constant influx of tyro gamblers, this number would not be supported. Their agents stroll about the town, visiting public-house parlours, and houses where cribbage-players resort, whist clubs, also billiard and bagatelle tables; experience having taught them, that the man who plays at one game, if the opportunity be afforded him, is ever ready to plunge deeply into the vice of gambling on a large scale. Junior clerks, and the upper class of gentlemen's servants, are the men whom they chiefly attack.

The abolition of the lotteries has not lessened the evil of gambling among servants: they resort now to gambling-houses, where the sum annually played for by the servants of the present day may reasonably be laid at one million and a half sterling. At most of the middle class of gambling-houses, play is going on from three o'clock P. M., to five or six o'clock A. M. In the afternoon, from three to seven, it is called morning play, being generally *rouge et noir* or *roulet*. The latter is a kind of EO and *rouge et noir* blended, there being both numbers and colours on which money may be staked. The board is whirled round on a pivot, and an ivory ball set in motion the reverse way on it. During its revolution, the bets or stakes are placed on numbers and colours, on a circular but fixed exterior frame corresponding in marks to the one in motion. After it subsides, and the ball has fallen into one of the compartments of the table, the bets which are lost are drawn into the bank, and the winners paid. If the ball falls into zero (0), then all the money on the table is forfeited, excepting that which was laid on colours only, when but half is exacted, the same as at the game of *rouge et noir*. In the evening, play commences again at ten or eleven o'clock, either with *French hazard* or *rouge et noir*.

Want of space induces us to go no farther into the description of this infamous system of gambling, and we beg to refer those interested in the subject to the article from whence the foregoing is taken, in which they will find the most ample expository details. We can only express our astonishment at the laxity of magisterial authority in allowing such well-known illegal practices to be carried on, and anxiously hope that means may be adopted to check so frightful an evil. The misery produced in private society by suffering such a species of gaming is indescribable in amount. "Through the public gaming-tables (says the same writer) every year vast numbers are hurled from respectable life to associate with wretchedness and criminals, or become exiles; and many commit suicide, and leave families in want, after having been robbed of their substance by those harpies, whom our government permits to reside even within the precincts of the court. One scoundrel, who is admitted into genteel society, and resides in a magnificent house in great style, on a fortune made by the most unlawful means, in a gaming-house, was, it is said, the cause, on an average of ten years, of fifteen suicides annually, besides bringing ruin and misery on ten times that number of families in the same period. One case presents itself which can be attested by hundreds of the sufferer's neighbours, being so well known. A respectable tradesman, possessing some property, who resided in Oxford Street, was, in the winter season, accustomed to attend a whist-club, held at a public-house in the vicinity of his own residence. He was remarkably characterised for steadiness of conduct and regular habits, and was never known at one time to venture more than half a crown at any game of chance, previous to the period of which I am about to speak, at which time he was fifty years of age. By some means or other, a fellow, an emissary of a *rouge et noir* house in Bury Street, obtained an introduction to the whist-club; and one evening, as he and his dupe were leaving the house, he said, 'I am going out of curiosity to witness the game of *rouge et noir*, never having seen it. Will you go with me? We need not play.' In an ill-fated hour the tradesman assented, as he subsequently stated, prompted only by the same curiosity which his companion affected to be influenced by. When at the table, seeing others win, and perhaps impelled by his cupidity

(for he was fond of money), he was induced to venture a few stakes, which came off in his favour; following up his success, he left the house that night a winner of £80, and probably went home to sleep in peace, but it was the last he ever enjoyed! No man ever followed gaming with such avidity as he afterwards did; he attended morning and evening play, till poverty only stopped his going. At one period, it is said that he was a winner of £2000: he repeatedly knocked up his intimate friends in the middle of the night to borrow money, after having lost that which he took to the table. In a few short months his funds began to wane, and his health to decline. He lingered not long, but departed from this world, a sad example of the danger of once commencing in such a vicious career."

## BIOGRAPHIC SKETCHES.

### NAPIER OF MERCHISTON.

JOHN NAPIER of Merchiston, a Scotsman, the distinguished inventor of the logarithms, an arithmetical process by which the labours of scientific men have been facilitated and advanced to an inconceivable degree, was born in the year 1550. He was descended from an ancient race of landed proprietors in Stirlingshire and Dumbartonshire. His father, Sir Alexander Napier of Edinbellie, in the former county, and Merchiston, in the county of Edinburgh, was master of the mint to James the Sixth, and survived the birth of the subject of this memoir for the unusual space of fifty-eight years. There is a prevalent notion that the inventor of the logarithms was a nobleman; this has arisen from his styling himself, in one of his title-pages, *Baro Merchistonii*; in reality, this implied *baron* in the sense of a superior of a barony, or what in England would be called lord of a manor. Napier was simply *Laird* of Merchiston—a class who in Scotland sat in parliament under the denomination of the *lesser barons*.

Napier was educated at St Salvador's College, in the University of St Andrew's, which he entered in 1562. He afterwards travelled on the Continent, probably to improve himself by intercourse with learned and scientific men. Nothing farther is ascertained respecting him, till after he had reached the fortieth year of his age. He is then found settled at the family seats of Merchiston, near Edinburgh, and Gartness, in Stirlingshire, where he seems to have practised the life of a recluse student, without the least desire to mingle actively in political affairs. That his mind was alive, however, to the civil and religious interests of his country, is proved by his publishing, in 1593, an exposition of the Revelations, in the dedication of which to the king, he urged his majesty, in very plain language, to attend better than he did to the enforcement of the laws, and the protection of religion, beginning reformation in his own "house, family, and court." From this it appears that Napier belonged to the strict order of Presbyterians in Scotland, for these are exactly the sentiments chiefly found prevalent among them at this period of our history.

In his more secluded residence at Gartness, Napier had both a waterfall and a mill in his immediate neighbourhood, which considerably interrupted his studies. He is said to have been a great deal more tolerant of the waterfall than of the mill; for while the one produced an incessant and equable sound, the other was attended with an irregular *clack-clack*, which marred the processes of his mind, and sometimes even rendered it necessary for him, when engaged in an unusually abstruse calculation, to desire the miller to stop work. He often walked abroad in the evening, in a long mantle, and attended by a large dog; and these circumstances, working upon minds totally unable to appreciate the real nature of his researches, raised a popular rumour of his being addicted to the black art. It is certain that, no more than other great men of his age, was he exempt from a belief in several sciences now fully proved to have been full of imposture. The practice of forming theories only from facts, however reasonable and unavoidable it may appear, was only enforced for the first time by a contemporary of Napier—the celebrated Bacon; and, as yet, the bounds between true and false knowledge were hardly known. Napier, therefore, practised an art which seems nearly akin to divination, as is proved by a contract entered into, in 1594, between him and Logan of Fastcastle—afterwards so celebrated for his supposed concern in the Gowrie conspiracy. "Forasmuch," says this document, "as there were old reports and appearances that a sum of money was hid within Logan's house of Fastcastle, John Napier should do his utmost diligence to search and seek out,

and by all craft and ingine [a phrase for mental power] to find out the same, or make it sure that no such thing has been there." For his reward he was to have the exact third of all that was found, and to be safely guarded by Logan back to Edinburgh with the same; and in case he should find nothing, after all trial and diligence taken, he was content to refer the satisfaction of his travels and pains to the discretion of Logan. What was the result of the attempt, or if the attempt itself was ever made, has not been ascertained.

Besides dabbling in sciences which had no foundation in nature, Napier addicted himself to certain speculations which have always been considered as just hovering between the possible and the impossible, a number of which he disclosed in 1596 to Anthony Bacon, the brother of the more celebrated philosopher of that name. One of these schemes was for a burning mirror similar to that of Archimedes, for setting fire to ships; another was for a mirror to produce the same effects by a material fire; a third for an engine which should send forth such quantities of shot in all directions as to clear every thing in its neighbourhood; and so forth. In fact, Napier's seems to have been one of those active and excursive minds, which are sometimes found to spend a whole life in projects and speculations without producing a single article of real utility, and in other instances hit upon one or two things, perhaps, of the highest order of usefulness. It has been arranged for the good of mankind, that the most follow beaten tracks in all things, while a very few are constantly trying new expedients, constantly roaming about for improved ways of accomplishing labour. Thus, a certain degree of general good is never lost sight of, while the possibility of increasing it receives just that degree of attention on the whole, which may be sufficient for its discovery, without perilling too much of what is already ascertained, in the search. As the life of Napier advanced, he seems to have gradually forsaken wild and hopeless projects, and applied himself more and more to the pure sciences. In 1598, he is found suggesting the use of salt in improving land; an idea probably passed over in his own time as chimerical, but revived in our own day with good effect. No more is heard of him till, in 1614, he astonished the world by the publication of his book of logarithms. He is understood to have devoted the intermediate time to the study of astronomy, a science then reviving to a new life under the auspices of Kepler and Galileo.

"The demonstrations, problems, and calculations of this science, most commonly involve some one or more of the cases of trigonometry, or that branch of the mathematics, which, from certain parts, whether sides or angles, of a triangle being given, teaches how to find the others which are unknown. On this account, trigonometry, both plane and spherical, engaged much of Napier's thoughts; and he spent a great deal of his time in endeavouring to contrive some methods by which the operations in both might be facilitated. Now, these operations, the reader, who may be ignorant of mathematics, will observe, always proceed by geometrical ratios, or proportions. Thus, if certain lines be described in or about a triangle, one of these lines will bear the same geometrical proportion to another, as a certain side of the triangle does to a certain other side. Of the four particulars thus arranged, three must be known, and then the fourth will be found by multiplying together certain two of those known, and dividing the product by the other. This rule is derived from the very nature of geometrical proportion, but it is not necessary that we should stop to demonstrate here how it is deduced. It will be perceived, however, that it must give occasion, in solving the problems of trigonometry to a great deal of multiplying and dividing—operations which, as every body knows, become very tedious whenever the numbers concerned are large; and they are generally so in astronomical calculations. Hence such calculations used to exact immense time and labour, and it became most important to discover, if possible, a way of shortening them. Napier, as we have said, applied himself assiduously to this object; and he was, probably, not the only person of that age whose attention it occupied. He was, however, undoubtedly the first who succeeded in it, which he did most completely by the admirable contrivance which we are now about to explain.

When we say that 1 bears a certain proportion, ratio, or relation to 2, we may mean any one of two things; either that 1 is the half of 2, or that it is less than 2 by 1. If the former be what we mean, we may say that the relation in question is the same as that of 2 to 4, or of 4 to 8; if the latter, we may say that it is the same as that of 2 to 3, or of 3 to 4. Now, in the former case, we should be exemplifying what is called a *geometrical*, in the latter, what is called an *arithmetical* proportion; the former being that which regards the number of times, or parts of times, the one quantity is contained in the other; the latter regarding only the difference between the two quantities. We have already stated that the property of four quantities, arranged in geometrical proportion, is, that the *product* of the second and third, divided by the first, gives the fourth. But when four quantities are in arithmetical proportion, the *sum* of the second and third, diminished by the *subtraction* of the first, gives the fourth. Thus, in the geometrical proportion, 1 is to 2 as 2 is to 4; if 2 be multiplied by 2 it gives 4; which divided by 1 still remains 4; while,

in the arithmetical proportion, 1 is to 2 as 2 is to 3; if 2 be added to 2 it gives 4; from which if 1 be subtracted, there remains the fourth term 3. It is plain, therefore, that, especially where large numbers are concerned, operations by arithmetical must be much more easily performed than operations by geometrical proportion; for, in the one case you have only to add and subtract, while in the other you have to go through the greatly more laborious processes of multiplication and division.

Now, it occurred to Napier, reflecting upon this important distinction, that a method of abbreviating the calculation of a geometrical proportion might perhaps be found, by substituting, upon certain fixed principles, for its known terms, others in arithmetical proportion, and then finding, in the quantity which should result from the addition and subtraction of these last, an indication of that which should have resulted from the multiplication and division of the original figures. It had been remarked before this, by more than one writer, that if the series of numbers 1, 2, 4, 8, &c. that proceed in geometrical progression, that is, by a continuation of geometrical ratios, were placed under or alongside of the series 0, 1, 2, 3, &c. which are in arithmetical progression, the addition of any two terms of the latter series would give a sum, which would stand opposite to a number in the former series indicating the product of the two terms in that series, which corresponded in place to the two in the arithmetical series first taken. Thus, in the two lines,

1, 2, 4, 8, 16, 32, 64, 128, 256,  
0, 1, 2, 3, 4, 5, 6, 7, 8,

the first of which consists of numbers in geometrical, and the second of numbers in arithmetical progression, if any two terms, such as 2 and 4, be taken from the latter, their sum 6, in the same line, will stand opposite to 64 in the other, which is the product of 4 multiplied by 16, the two terms of the geometrical series which stand opposite to the 2 and 4 of the arithmetical. It is also true, and follows directly from this, that if any three terms, as, for instance, 2, 4, 6, be taken in the arithmetical series, the sum of the second and third, diminished by the subtraction of the first, which makes 8, will stand opposite to a number (256) in the geometrical series which is equal to the product of 16 and 64 (the opposites of 4 and 6), divided by 4 (the opposite of 2).

Here, then, is, to a certain extent, exactly such an arrangement or table as Napier wanted. Having any geometrical proportion to calculate, the known terms of which were to be found in the first line or its continuation, he could substitute for them at once, by reference to such a table, the terms of an arithmetical proportion, which, wrought in the usual simple manner, would give him a result that would point out or indicate the unknown term of the geometrical proportion. But, unfortunately, there were many numbers which did not occur in the upper line at all, as it here appears. Thus, there were not to be found in it either 3, or 5, or 6, or 7, or 9, or 10, or any other numbers, indeed, except the few that happen to result from the multiplication of any of its terms by two. Between 128 and 256, for example, there were 127 numbers wanting, and between 256 and the next term (512) there would be 255 not to be found.

We cannot here attempt to explain the methods by which Napier's ingenuity succeeded in filling up these chasms, but must refer the reader, for full information upon this subject, to the professedly scientific works which treat of the history and construction of logarithms. Suffice it to say, that he devised a mode by which he could calculate the proper number to be placed in the table over against any number whatever, whether integral or fractional. The new numerical expressions thus found, he called *Logarithms*, a term of Greek etymology, which signifies the ratios or proportions of numbers. He afterwards fixed upon the progression, 1, 10, 100, 1000, &c., or that which results from continued multiplication by 10, and which is the same according to which the present tables are constructed. This improvement, which possesses many advantages, had suggested itself about the same time to the learned Henry Briggs, then professor of geometry in Gresham College, one of the persons who had the merit of first appreciating the value of Napier's invention, and who certainly did more than any other to spread the knowledge of it, and also to contribute to its perfection."

The invention was very soon known over all Europe, and was every where hailed with admiration by men of science. Napier followed it up, in 1617, by publishing a small treatise, giving an account of a method of performing the operations of multiplication and division, by means of a number of small rods. His materials for calculation have maintained their place in science, and are known by the appellation of Napier's Bones. In the same year, April 3, this illustrious man breathed his last, at Merchiston Castle [a small old tower still existing in the neighbourhood of Edinburgh], and was buried in the church of St Giles, on the eastern side of its southern entrance, where a stone tablet, bearing a Latin inscription, indicated that this is the burial-place of the Napiers. His family has since been ennobled, and the present Lord Napier is distinguished as an excellent landlord, and a zealous promoter of the improvement of the moral

and physical condition of the peasantry. A life of the ingenious Laird of Merchiston was published in 1787, by the Earl of Buchan; but one, which it is to be hoped will prove more worthy of the subject, is in preparation by Mr Mark Napier, advocate.

#### HUMAN LIFE.

[BY BERNARD BARTON, ESQ.]

I walk'd the fields at morning's prime,  
The grass was ripe for mowing;  
The sky-lark sang his matin chime,  
And all was brightly glowing.  
"And thus," I cried, "the ardent boy  
His oulse with rapture beating,  
Deems Life's inheritance is joy—  
The future proudly greeting."  
I wander'd forth at noon:—alas!  
On earth's maternal bosom  
The scythe had left the withering grass  
And stretch'd the fading blossom  
And thus, I thought with many a sigh,  
The hopes we fondly cherish,  
Like flowers which blossom but to die,  
Seem only born to perish.  
Once more, at eve, abroad I stray'd,  
Through lonely hay-fields musing;  
While every breeze that round me play'd  
Rich fragrance was diffusing.  
The perfum'd air, the hush of eve,  
To purer hopes appealing,  
O'er thoughts perchance too prone to grieve,  
Scatter'd the balm of healing.  
For thus "the actions of the just,"  
When Memory hath enshrined them,  
E'en from the dark and silent dust  
Their odour leave behind them.

—Forget Me Not, 1927.

#### INDIAN ANTIQUITIES OF NORTH AMERICA.

THE whole of English North America, when first discovered and colonised by Europeans, was occupied by tribes who were utterly uncivilised; that is, they had no knowledge of any of the arts of life, except of such as ministered in the rudest manner to their immediate necessities. The greater part of them were hunters, and had no settled dwelling-place; roaming over a vast extent of country, and only stopping for a time in spots where they found the game most plentiful; or when they were occupied in hostile expeditions against other tribes, against whom they entertained some project of revenge. There were a few settled villages on rivers, or by the sea-coast, where the inhabitants lived by fishing. But their dwellings everywhere were built only of clay, reeds, and branches of trees; their implements for hunting and fishing were nothing but lances and coarse hooks formed of shells, or perhaps of copper; and their dress a scanty wrapper made of the bark of trees. Such being the condition of the people, they were incapable of producing any work which either required skill in the design, or the union of a number of hands for executing it. No such work was seen among them: their largest building was the hall of the *sachem*, or elder of the village, which was in every respect inferior to the barns of turf and stone seen in the Highlands, and was not fitted to last above eight or ten seasons. How great, then, was the surprise of the civilised people, on proceeding farther into the wilderness, and approaching the forests of the Mississippi, to find among these solitudes the remains of works which could only have been designed and executed by people considerably advanced in civilization, and living under the regulation of a government which had the power of employing the labour of thousands of workmen. The existing tribes had not the slightest tradition about these monuments, or of the people by whom they had been constructed, which is the more singular, that almost all countries have some ancient race embodied in their traditional stories, whom they are accustomed to consider as the engineers of every antique monument for whose existence they cannot otherwise account. The Scots have their *Pechs*; the Greeks and Italians had the *Cyclops*, who were said to have built the gigantic ruins of Mycenæ, Tiryns, Roselle, Norba, &c. The Hindus and Persians have Deotas and Jins, to whom they give the credit of such works; and so it is universally in other countries. The North American tribes, however, seem to have fallen into so low a state, that they had neither curiosity nor interest in the singular remains of antiquity which are found in their wilds: it is probable that they did not even distinguish them as works of art—an idea which would have implied some knowledge that art and science existed superior to their own, but that they considered them merely as some freak of nature. How, then, can we account for the existence of such monuments in a country where they are completely overlooked, and where the inhabitants have fallen into such a state of savagism? This is one of the most curious questions relating to the early state of America, and has never yet received a satisfactory solution.

The following notices concerning some of the most interesting of these ancient works, are copied chiefly from Warden's excellent Account of the United States.

The whole of them, it will be observed, occur in the western states, in the regions of the Ohio, Mississippi, and Missouri.

"A singular circumstance," says Mr Warden, in the history of Kentucky, is the existence of mounds and fortifications, which indicate great antiquity, and a considerable acquaintance with the mechanical arts in some race of former inhabitants. Several of the old forts near the mouth of Kentucky river are covered with trees, which the botanist Dr Cutler considered as of second growth; and inferred from this that the fortifications must be more than one thousand years old. The remains of one, situated half a mile from the Ohio, and nearly opposite the mouth of the Big Scioto River, enclose fourteen acres of a square form. The walls are thirty feet thick at the base, and, on the summit, large enough for the passage of a waggon; they are from eight to sixteen feet in height. There are seven gateways, each twenty feet high; three on the west, two on the east, and two on the north. From the north-west angle are seen the remains of a covered way (a road with a wall on each side as a shelter for marksmen), which extends 280 yards to a stream on the west side of the fort. The walls are of the same dimensions as those of the fort; and there is a road protected in the same way leading to a creek (stream) on the east side, distant 150 yards. Beyond these streams on the east and west side there is no vestige of defence. At a small distance from the fort there are two mounds (like watch-towers) of a pyramidal form." On French Broad River, in Tennessee, are perpendicular rocks, on which, more than 100 feet above the water, are carvings of birds and beasts, &c.

In Indiana, on the north side of the Ohio, remains of a different kind are found. These are a number of mounds lying in the tract from White River to the sources of the Wabash. They are of unequal size, and have been evidently formed at very remote periods from each other; they generally contain bones, those of the smaller mounds being still undecayed, and able to bear their own weight, while those of the larger are so decomposed that they crumble to dust on the smallest touch. The trees which grow upon the smaller are also evidently of less age than many of those in the neighbouring woods, while those on the higher mounds are old and magnificent trees. This state of things seems to indicate a progressive decay of arts and power, during a long period, among the people by whom the mounds were raised.

In the state of Ohio, ancient fortifications are numerous. At Cincinnati there is a circular wall or embankment 800 feet across; the bank is thirty feet thick at the base, and from three to six high; there are several others of smaller dimensions, besides four mounds, one of which is twenty-seven feet high, and 440 across. On the summit of an elevated hill, two miles below Hamilton, the walls of an ancient fortification enclose eighty acres of ground. In Highland County, two miles west of Chillicothe, there is a wall of stone from twelve to fifteen feet high, and four or five thick, which encloses upwards of 100 acres. Near Piqua, in Miami County, there is one which encloses about seventeen acres, in a circular form; the walls all round are built of stone, carried from the river 600 yards distant. A wall from four to seven feet high extends seven miles from the Great to the Little Scioto River. The trees growing on the walls of these ruins are all as large as any in the surrounding forests, and cannot be less than 400 years old. There are remains of the same kind all the way from Ohio, south and south-west, to the Floridas.

They are found also in Michigan to the north. On the river Huron, in that district, is a fortress with walls of earth, quite the same as those of Ohio and Kentucky; another is seen three miles and a quarter below Detroit, enclosing several acres, in the midst of an extensive marsh, with a breastwork three or four feet high. On the west of Lake Michigan is found perhaps the most singular of these curious relics: it stands on a level plain below Lake Pepin; it is covered with grass; but Carver, the traveller who describes it, mentions that he could plainly trace a breastwork of a circular form, with its flanks reaching to the river, which covered its rear; the ruin was about four feet high, extending nearly a mile, and capable of protecting 5000 men. The outline of the work had been traced in angles for the facility of defence, quite on the same principle as those of modern fortifications.

In Missouri, in the country of the Sioux Indians, there are many mounds and fortifications. they are also found on the Osage and Platte rivers. So far Mr Warden. Besides the indications given by these monuments, there are other proofs that the continent of North America has been at some former period occupied by a people considerably advanced in a knowledge of the arts. In the gold mines which are now wrought in the western parts of Carolina and Georgia, there have been found crucibles of excellent workmanship, and which were preferred by the miners to the best which can be purchased at the present day. Unluckily none of them have been preserved, but the evidence which they afforded, that these mines have been wrought during some very remote period, and by a people not at all deficient in a knowledge of the arts, is full and unquestionable.

All these appearances are of course utterly unintelligible to the present tribes of Indians; and being accompanied by nothing in the shape of letters, hiero-

glyphics, or other marks, in which literary diligence might have traced some thread of discovery, they are equally obscure to the learned.

The history of the western continent does not, however, leave us altogether without some facts which throw a glimmer of light on these singular remains, and the people to whom they belonged.

The Mexicans, who inhabited the narrow neck of mountain land which joins the two continents of North and South America, were, when first discovered by the Spaniards, in a state of civilization approaching to that of some European nations. The body of the people were, indeed, in a state of darkness and savagism little superior to that of the tribes by whom they were surrounded; but there was an educated and informed class among them, to whom this mass of ignorance was content to be subject. The educated portion was distributed among the uneducated, in such a manner that the benefits of their knowledge could be every where felt, and gave them influence. Works of great extent and ingenuity were executed by the conjoined skill and labour which could by these two classes be brought to bear on them. It is known, however, from the traditions of this people, and from certain hieroglyphical documents which they had preserved relating to their own history, that Mexico was not the place in which their tribe was originally situated. They had migrated, according to their own account, from regions far to the northward, and had once been a large and powerful nation, whose strength and numbers were reduced almost to nothing, in various deserts, changes, and hostile attacks, during their long migration from their original seat, called Aztlan. The imperfect records which they have preserved, intimate obscurely the time occupied in this period of wandering, as well as the stages at which they halted on their way. Some of these latter have been traced; and by the remains found on the spot, combined with the indications of Mexican hieroglyphics, there is reason to think that they can still be identified. The ruins of a great city were discovered in 1773, near the head of the Gulf of California, and corresponding with one of the stations. They were situated in the midst of a vast and beautiful plain, and occupied a space of three square leagues. The Spaniards gave them the name of *Las Casas Grandes*, or the "Magnificent Buildings," and the whole plain is filled with fragments of stoneware, resembling the Mexican, beautifully painted in red, white, and blue. It is remarkable also, that, to the north of this region, in a district never occupied, and hardly ever seen by Europeans, the native Indians have advanced considerably in civilization. A missionary, who visited the Mocquis in 1773, was astonished to find here an Indian town, with two large squares, houses of several stories, streets well laid out, and parallel to each other. The people assemble at evening on the terraced roofs of their houses; and the region every where presents traces of cultivation, resembling that of the ancient Mexicans. These people speak a language quite different from the Mexican; but it is well known to some of the learned of America, that two parts of the same tribe, removed from each other, and placed under different circumstances, with different pursuits and a different aspect of country, will in time so completely change, each from the common language, that their origin can no longer be traced by that means. Still farther north, there are found people who indulge a taste for some of the peculiar arts of the same nation, without having preserved any thing of their domestic refinement. Between Nootka Sound and Cook's River, under the 57th degree of N. lat., the natives have a strong predilection for hieroglyphical paintings, such as were found among the Mexicans; and they execute carvings in wood, imitations of the human features and of animals, with great spirit and fidelity. Their buildings of wood showed also design, and the efforts of combined labour.

As we follow these traces of Mexican civilization, we are led, it will be observed, towards the northern part of the American continent, where the ancient remains which first excited our wonder are situated. These are more frequent towards the western districts, and vanish altogether on approaching the Atlantic; that is, their numbers increase as they approach the line of ancient Mexican civilization, and disappear as they leave it. The connection which this circumstance points out between the mysterious monuments of the Ohio, Mississippi, and Missouri, and the historical civilization of the races of the south and west, cannot be overlooked. The chain of connection is at present broken and feeble, but investigation may supply the deficient links, and introduce certainty, where as yet there are only probability and surmises.

The Mexicans consisted, as we have said, of a small educated class (not, however, apparently selected from any particular tribe), and a large body of ignorant and demi-savage people, who were under the former, and submitted themselves to be directed by their superior information. This was the kind of civilization which existed in most of the nations of antiquity, no means being then known for the general diffusion of knowledge. It is, however, the most insecure and precarious state in the progress of nations, because, unless with a very strong and well-organised military force, the uninformed mass are always liable to be worked on by some passion or prejudice, and may thus at any time rise and sweep into destruction the

whole labours of the better informed and ruling body. Knowledge is very apt to retrograde in such a state, and has indeed done it in various instances; and it is from such a cause that we must trace the destruction of that power and skill which erected the works of which we have been speaking. There is no occasion for supposing that any nation ever existed in North America different from those found there. It appears only that civilization had at one time gained an ascendancy, which, surrounded and mixed as it was with the hostile power of barbarism and ignorance, it was not able to maintain. The connection of this comparative state of improvement with that of the Mexicans, who seem to have been driven from the northern to the southern parts of the same country, may be elucidated by future investigation.

#### SCIENCE AND LABOUR.

INDIVIDUALS whose occupations are chiefly of a laborious and physical nature, are exceedingly apt to draw invidious comparisons betwixt the value of their own efforts, and that of those classes of men who mainly depend for their subsistence on the exercise of their mental faculties. To do so, however, is quite adverse to the principles developed by political economists, and is, in reality, quite unworthy of any man laying claim to the most common understanding. It is only by the extraordinary combinations of science with genius and capital, that the working man is furnished with employment, or enabled to support his family; and without a body of men in the country, whose labour consists simply of thinking, society would fall in pieces, and poverty visit the *fresides* of the artisan and peasant. This proper view of the value of science and mental labour is well advanced in the small work called the "Rights of Industry," forming a volume of the "Working Man's Companion."

Lord Bacon, the great master of practical wisdom, has said that 'the effort to extend the dominion of man over nature is the most healthy and most noble of all ambitions.' 'The empire of man,' he adds, 'over material things, has for its only foundation the sciences and the arts.' A great deal of the knowledge which constitutes this dominion has been the property of society, handed down from the earliest ages. The indirect influence of a general advance in knowledge upon the particular advance of any branch of labour, is undeniable; for the inquiring spirit of an age spreads itself on all sides, and improvement is carried into the most obscure recesses, the darkest chinks and corners of a nation, even as the Liverpool railway is daily extending the civilization of the rudest districts of Ireland. It has been wisely and beautifully said by Hume, 'We cannot reasonably expect that a piece of woollen cloth will be wrought to perfection in a nation which is ignorant of astronomy, or where ethics are neglected.' The positive influence of science in the direction of labour is exhibited in the operations of mechanics and chemistry applied to the arts, in the shape of machines for saving materials and labour, and of processes for attaining the same economy. These are the influences of science upon labour, not so direct as the mechanical skill which has contrived the steam-engine, or so indirect as the operation of ethics upon the manufacture of a piece of woollen cloth; but which confer a certain, and in some instances enormous benefit upon production, by the operation of causes which, upon a superficial view, appear to be only matters of laborious but unprofitable speculation. If we succeed in satisfying your minds as to the extent and importance of those aids which production derives from the labours of men who have not been ordinarily classed amongst 'working men,' but who have been truly the hardest and most profitable workers which society has ever possessed, we shall show you what an intimate union subsists amongst those classes of society who appear the most separated; and that these men really labour with you all most effectually in the advancement of the great interests of mankind.

When Hume thought that a nation that had not studied astronomy would be behind in the manufacture of cloth, he perhaps did not mean to go the length of saying that the study of astronomy has a real influence in making cloth cheaper, in lessening the cost of production, and in therefore increasing the number of consumers. But look at the direct influence of astronomy upon navigation. A seaman, by the guidance of principles laid down by the great minds that have directed their mathematical powers to the study of astronomy—such minds as those of Newton and Laplace—measures the moon's apparent distance from a particular star. He turns to a page in the Nautical Almanac, and, by a calculation, directed principally by this table, can determine whereabouts he is upon the broad ocean, although he may not have seen land for three months. Sir W. Herschel, a mathematician of our own times, who has united to the greatest scientific reputation the rare desire to make the vast possessions of the world of science accessible to all, has given, in his 'Discourse on the Study of Natural Philosophy,' an instance of the accuracy of such lunar observations, in an account of a voyage of eight thousand miles, by Captain Basil Hall, who, without a single landmark during eighty-nine days, ran his ship into the harbour of Rio as accurately, and with as

little deviation, as a coachman drives his stage into an inn-yard. But what has this, you say, to do with the price of clothing? Exactly this: part of the price arises from the cost of transport. If there were no 'lunar distances' in the Nautical Almanac, the voyage from New York to Liverpool might require three months instead of three weeks.

Astronomy, therefore, you see, and navigation, both sciences the results of long ages of patient inquiry, have opened a communication between the uttermost ends of the earth, and therefore have had a slow but certain effect upon the production of wealth, and the consequent diffusion of all the necessities, comforts, and conveniences of civilised life. The connection between manufactures and science, practical commerce and abstract speculation, is so intimate, that it might be traced in a thousand striking instances. A map now appears a common thing, but it is impossible to overrate the extent of the accumulated observations that go to make up a map. An almanac seems a common thing, but it is impossible to overrate the prodigious accumulations of science that go to make up an almanac. With these accumulations, it is now no very difficult matter to construct a map or an almanac. But if society could be deprived of the accumulations, and we had to re-create and remodel every thing for the formation of our map and our almanac, it would perhaps require many centuries before these accumulations could be built up again; and all the arts of life would go backward, for want of the guidance of the principles of which the map and the almanac are the interpreters for popular use.

Science, we see, connects distant regions, and renders the world one great commercial market. Science is, therefore, a chief instrument in the production of commercial wealth. But we have a world beneath our feet which science has only just now begun to explore. We want fuel and metallic ore to be raised from the bowels of the earth; and, till within a very few years, we used to dig at random when we desired to dig a mine, or confided the outlay of thousands of pounds to be used in digging, to some quack whose pretensions to knowledge were even more deceptive than a reliance upon chance. The science of geology, almost within the last quarter of a century, has been able, upon certain principles, to determine where coal especially can be found, by knowing in what strata of earth coal is necessarily formed; and thus the expense of digging through earth to search for coal, when science would at once pronounce that no coal was there, has been altogether withdrawn from the amount of capital to be expended in the raising of coal. That this saving has not been small, we may know from the fact, that eighty thousand pounds were expended fruitlessly in digging for coal at Bexhill, in Sussex, not many years ago, which expense geology would have instantly prevented, and have thus accumulated capital, and given a profitable stimulus to labour, by saving their waste.

Whatever diminishes the risk to life or health, in any mechanical operation, or any exertion of bodily labour, lessens the cost of production, by diminishing the premium which is charged by the producers to cover the risk. The lightning conductor of Franklin, which is used very generally on the Continent, and almost universally in shipping, diminishes the risk of property, in the same way that the safety-lamp diminishes the risk of life; and, by this diminution, the rate of insurance is lessened, and the cost of production therefore lessened. Lightning is one of the destructive forces of Nature, in particular cases, which science knows how to control. A few years ago, all the timber in the Hartz Forest in Germany was destroyed by a species of beetle, which, gnawing completely round the bark, prevented the sap from rising. This destructive animal made its appearance in England; and science very soon discovered the cause of the evil, and provided for its removal. If there had been no knowledge of natural history here, not a tree would have been left in our woods; and what, then, would have been the cost of timber?

The crossing and intertwining of the abstract and practical sciences, the mechanic skill and the manual labour, which are so striking in the manufacture of a piece of calico, prevail throughout every department of industry in a highly-civilised community. Every one who labours at all profitably, labours for the production of utility, and sets in motion the labour of others. Look at the labour of the medical profession. In the fourteenth century, John de Gaddesden treated a son of Edward the Second for the small-pox, by wrapping him up in scarlet cloth, and hanging scarlet curtains round his bed; and, as a remedy for epilepsy, the same physician carried his patients to church to hear mass! The medical art was so little understood in those days, that the professors of medicine had made no impression upon the understanding of the people; and they consequently trusted not to medicine, but to vain charms, which superstitious ignorance of the practitioners themselves kept alive. Francis the First, king of France, having a persuasion that because the Jews were the most skillful physicians of that day, the virtue was in the Jew, and not in the science which he professed, sent to Charles the Fifth of Spain for a Jewish physician; but finding that the man who arrived had been converted to Christianity, he refused to employ him, thinking the virtue of healing had therefore departed from him. When such ignorance prevailed, diseases of the

slightest kind must have been very often fatal; and the power of all men to labour profitably must have been greatly diminished by the ravages of sickness. These ravages are now checked by medical science and medical labour. In some parts of France, even at the present day, the sick cattle are taken by the country people outside the churches to hear mass. If there were a skilful cattle-doctor in those villages, the loss of stock would be doubtless lessened, and the people would be all the richer for the cattle-doctor's art, instead of degrading religion by an homage akin to the worst idolatry.

But the principle of connecting every exertion of the mind with profitable labour goes farther even than the applications of science, direct or indirect, to the mechanical arts. The sciences and arts cannot be carried forward except in a country where the laws are respected, where justice is upheld, where intellect generally is cultivated, and where taste is diffused. The instructor of the young, who dedicates his time to advancing the formation of right principles, and the acquirement of sound knowledge by his pupils, is a profitable labourer. The writer who applies his understanding to the discovery and dissemination of moral and political truth, is a profitable labourer. The interpreter and administrator of the laws, who upholds the reign of order and security, defending the innocent, punishing the guilty, and vindicating the rights of all from outrage and oppression, is a profitable labourer. These labourers, it may be said, are still direct producers of utility, but that those who address themselves to the imagination—the poets, the novelists, the painters, and the musicians—in every polished society, are unprofitable labourers. One word is sufficient for an answer. These men advance the general intellect of a country, and they therefore indirectly advance the production of articles of necessity. We have already shown you how the study of the higher mathematics, upon which astronomy is founded, has an influence upon the production of a piece of woollen cloth; and we beg you to bear this connection in mind when you hear it said, as you sometimes may, that an abstract student, or an elegant writer, is not a producer—is, in fact, an idler. The most illustrious writers of every country, the great poets, have lifted mankind to their noblest pursuits of knowledge and virtue. Even the less dignified labourers in the same field—those who especially devote themselves to give pleasure and amusement—call into action some of the highest and purest sources of enjoyment. They lead the mind to seek its recreations in more ennobling pursuits than those of sensuality; their arts connect themselves by a thousand associations with all that is beautiful in the natural world; they are as useful for the promotion of pure and innocent delight, as the flowers that gladden us by their beauty and fragrance by the side of the corn that nourishes us. An entire community of poets and artists would be as unprofitable as if an entire country were dedicated to the cultivation of violets and roses; but the poets and the artists may, as the roses and the violets, furnish the graces and ornaments of life, without injury, and indeed with positive benefit, to the classes who more especially dedicate themselves to what is somewhat exclusively called the production of utility. The right direction of the talents which are dedicated to art and literature is all that is required from those who address themselves to these pursuits. He, therefore, who beguiles a vacant hour of his tediousness, by some effort of intellect which captivates the imagination without poisoning the morals—and he who by the exercise of his art produces forms of beauty which awaken in the mind that principle of taste which, more than any other faculty, requires cultivation—have each bestowed benefits upon the world which may be accurately enough measured even by the severe limitations of political economy; they are profitable labourers, and benefactors of their species.

We have entered into these details, principally to show that there are other and higher producers in society than the mere manual labourers. It was an ignorant fashion amongst the mental labourers of other days to despise your class, the physical labourers. They have learnt to know your value, and you should learn to know theirs. Both classes are working-classes. No one can say that the mental labourers are not workers. They are, we may truly affirm, taken as a class, the hardest workers in the community. No one ever reached eminence in these pursuits without unwearied industry: the most eminent have been universally despisers of ease and sloth, and have felt their highest pleasures in the absorbing devotion of their entire minds to the duties of their high calling. They have wooed knowledge as a mistress that could not be won without years of unwearied assiduity. The most eminent, too, have been practical men, despising no inquiry, however trifling it might appear to common eyes, and shunning from no occupation, however tedious, as long as it was connected with their higher duties. The positive influence even of the labours of the poets and the artists upon the advance of other labour might be easily shown. In their productions, especially, supply goes before demand, and creates demand. It has been calculated by an American writer, that the number of workmen who have been set in action—paper-makers, printers, binders—by the writings of Sir Walter Scott alone, in all countries, would, if gathered together, form a community that would fill a large town. The pot-

teries of Etruria, in Staffordshire, could not have existed unless Mr Wedgwood had introduced into our manufacture of china the forms of Grecian art, bequeathed to us by the taste of two thousand years ago, and thus created a demand which has furnished profitable labour to thousands. But this, as we have already shown you, is not the principal way of viewing the influence of science, and literature, and art, upon all other industry. To reduce every labour in art, or literature, or science, to the same standard of value by which manual labour is measured, would be as absurd as the tasteless ignorance of the Spaniards, who applied a rare and valuable antique bust to serve as the weight to a church-clock. Any attempt to put the mental labourers upon the same footing of value as the labourers without skill, would be as impossible as it would be mischievous if it were possible; for in that case production would decline, and ultimately cease altogether, for the fountains of labour with skill would be dried up. Capital must go forward working with accumulation of knowledge; and fortunately, if you, the working-men, adapt yourselves to this natural energy of capital, you will yourselves become the accumulators of knowledge. Manual labour is only in the highest degree required in the early settlement of a country. When a dense population succeeds to a scattered one, labour with skill is called into action. Your counter-control to the absorbing power of capital is the equally absorbing power of skill—for that also is capital. Knowledge is power, because knowledge is property."

#### A LETTER FROM A SETTLER FOR LIFE IN VAN DIEMAN'S LAND.

(From Hood's Comic Annual, 1833.)

"To Mary at No 45 Mount Street Grosvenor Square.

DEAR MARY—Littled did I think wen I advertised in the Tims for another Plaice of taking wan in Vandemin's land. But so it his and hear I am among Kangeroses and Savidges and other Forriners. But goverment offering to Yung Wimmin to Find them in Vittles and Drink and Close and Husbands was turns not be sneazed at, so I rit to the Outlandish Secketary and he was so Kind as Grant.

Wen this cumts to Hand go to Number 22 Pim-pel Plice And mind and go betwixt Six and seven For your own Sake cos then the fammils Having Diner give my kind love to betty Housmad and Say I am safe of my Journey to Forrin parts And I hope master as never Mist the wine and brought Them into trouble on My accounts. But I did not Like to leav for Ever And Ever without treeting my Friends and feller servants and Drinking to all their fairwells. In my Flury wen the Bell rung I forgot to take My own Key out of missis Tekaddy but I hope sum wan had the thought And it is in Good hands but shall be obleged to no. Lickwise thro my Lones of Sperrits my lox of Hares quite went out of My Hed as was prommitt to Be giv to Gorge and Willum and the too Futmen at the too Next does But I hop and Trust betty pacid them with lox of Her hone as I begd to Be dun wen I rit Her from dover. O Mary wen I furst see the dover Wite cliffs out of site wat with squemishnes and Fellings I all most repentid givin Inqland warning And had douts if I was goin to better myself. But the stewart was verry kind tho I could make Him no returns except by Dustin the ship for Him And helpin to wash up his dishes. Their was 50 moor Young Wimmin of us and By way of passing tim We agreed to tell our Histris of our selves taken by Turns But they all turned out Alike we had All left on account of Testacious masters and crustacious Mississis and becos the Wurks was to much For our Strenths but betwixt yew and Me the reel truths was beeing Flirted with and unprommitt by Perfidus yung men. With sich exampls befor these Minds I wonder sum of them was unpudent enuff to Lissen to the Salers whom are coverd with Pitch but famus for Not stiking to there Wurds. has for Me the Mate chose to be verry Partickler was nite Setting on a Skane of Rops but I giv Him is Anser and lucky I did for Am infourmd he as Got too more Marred Wives in a state of Biggamy thank Goodness wan can marry in new Wurlds without mates. Since I have bean in My present Sitation I have had between too and three offers for My Hands and expex them Evry day to go to fistens about Me this is sum thing lick treeting Wimmin as Wimmin ought to be treetid Nun of your sarsy Buchers and Backers as brakes there Prommissis the sam as Pi Crust wen his maid Lite and shivry And then laffs in Your face and say they can hav anny Gal they liek round the Square. I dont menshun nams but Eddard as drives the Fancy bred will no Wat I mean. As soon as ever the Botes rode to Land I dont agrivete the Truth to say their was haf a duzzin Bows apeace to Hand us out to shoar and sum go so Far as say they was offered to thro Speeking Trumpits afore they left the Shipside. Be that as it May or may Not I am toold We maid a Verry pritty site all Wauking too and too in our bridle wite Gownds with the Union Jacks afore Us to pay humbel Respex to kernel Arther who behaved verry Gentlemanny and Complementid us on our Hansom apearences and Purtilty sed he Wisht us All in the United States. the Salers was so gallant as giv three chears wen We left there Ship and sed if so be they had not Bean without Canons they Wood have saluted us all Round. Servents mite live Long enuff in

Lonnon without Being sich persons of Distinkshun. For my hone Part, cumming among strangers and Pig in Pokes, prudence Dicktadt not to be askt out At the verry furst cumming in howsumever All is setteld And the match is aproved off by Kernel Arther and the Brightish goverment, who as agreed to giv me away, themas wat I call Honners as we used to Say at wist. Wan thing in My favers was my voice and my noing the song of the Plane Gould Ring witch the Van Demons had never Herd afore I wood recommend all as meens cumming to Bring as menny of the fashingable Songs and Ballets as they Can—and to get sum nolliges of music as fortunately for me I was Abel to by meens of praxising on Missis Piney Forty wen the fammily Was at ramsgit. of Coarse you and betty Will xpect Me to indulge in Pearsonallitis about my intendid to tell Yew wat he lick he is Not at All lick Eddard as driv the Fancy bred and Noboddy else yew No. I wood send yew His picter Dun by himself only its no more lick Him then Chork is to Chens. In spit of the Short Tim for Luv to take Roots I am convinst he is verry Passionet of coarse As to his temper I cant Speek As yet as I hav not Tride it. O mary littled did I think too Munt ago of sending yew Brid Cake and Weddin favers wen I say this I am only Figgering in speach for Yew must Not look for sich Things from this Part of the World I dont mean this by Way of discourridgement Wat I meen to Say is this If so be Yung Wimmin prefers a state of Silly Bessy they Had better remane were they was Born but as far as Reel down rite Court-ing and no nonsens is concarned this is the Plaice for my Munny a Gal has only to cum out hear And theirs duzzens will jump at her like Cox at Guberris. it will Be a reel kindnes to say as Much to Hannah at 48 and Hester Brown and Peggy Oldfield and partickler poor Charlotte they needent Fear about being Plane for Yew may tell Them in this land Faces dont make stumblin Blox and if the Hole cargo was as ugly As sin Lods wood git marrid. Deer Mary if so Be you feel dispod to cum Out of Your self I will aford evry Falicity towards your hapiness. I dont want to hurt your Felines but since the Cotchman as giv yew up I dont think Yew have another String to your Bo to say nothink of Not being so young As yew was Ten Yeer ago and faces Will ware out as well as scrubbin brushes. theirs a verry nice yung man is quit a Willin to offer to Yew providid you cum the verry Next vessle for He has Maid up his mind not to Wait beyond the Kupid and Sikey. as the Ship is on the Pint of Saling I cant rite Moor at present except for them has as shily shalyng Sweet harts to Thretten with cumming to Vandemins And witch will soon sho whether its Culbard love or true Love I hav seen Enuff of Bows dropping in at supertime and falling out the next morning after borrowin Wans wags. Wen yew see anny Friends giv my Distant love to Them and say My being Gone to another world dont inpear my Memmery but I offen Thinks of Number 22 and the two Next Dores. yew may Disclose my mattermonial Prospex to betty as we hav always had a Deal of Confidens. And I remane with the Gratest assurance Your affexionat Friend Susan Gale.

P.S. Deer mary my Furst Match beeing broke off short, hope Yew will not take it ill but I hav Marrid the yung Man as was to Hav waited for Yew but As yew hav never see one Another trusts yew will Not take Him to hart or abrade by Return of Postesses he has behaved Perfickly honnerable And has got a verry United friend of his Hone to be atatch to Yew in lew of him. adew."

By an unlucky misrecollection, Earl Spencer's name was given in a late article, instead of the Marquis of Blandford, as the purchaser of the celebrated Valdarfer Boecaccio. Earl Spencer was the competing bidder, and stopped at L.2250. The Marquis, who is now Duke of Marlborough, bade L.2250, and "after a due pause," says the bibliomane Dibdin, "the hammer fell. The spectators," continues that quaint writer, "stood aghast, and the sound of Mr Evans's prostrate sceptre of dominion reached, and resounded from, the utmost shores of Italy. The echo of that fallen hammer was heard in the libraries of Rome, of Milan, and St Mark. Boecaccio himself started from his slumber of some five hundred years; and Mr Van Praet [Napoleon's librarian] rushed, but rushed in vain, amid the royal book-treasures at Paris, to see if a copy of the said Valdarfer Boecaccio could there be found!"

MESSES CHAMBERS again respectfully notify, that they do not require and cannot accept of any communications, either in prose or verse, for their Journal, which is conducted on a uniform fixed principle, requiring a great deal of care in the composition, and therefore liable to serious injury if intruded upon by matter not in strict accordance with the leading features of the work. They have also to mention, that they have made it a rule, from the first, of never answering correspondents, anonymous or otherwise, through the medium of their publications, in order that their pages may not be loaded with matter which can only be interesting to one out of fifty thousand individuals. All letters not post-paid are returned to the Post Office without being opened.

LONDON: Published, with Permission of the Proprietors, by GIFF & SMITH, Paternoster Row; G. BAKER, Holywell Street, Strand; BANCROFT & CO., Manchester; WRIGHTSON & WEBB, Birmingham; WILLMER & SMITH, Liverpool; W. E. SOMERSCALE, Leeds; C. N. WRIGHT, Nottingham; WESTLEY & CO. Bristol; S. SIMMS, Bath; J. JOHNSON, Cambridge; W. GAIN, Exeter; J. PURDON, Hull; G. RIDGE, Sheffield; H. BELLERY, York; J. TAYLOR, Brighton; and sold by all Booksellers, Newsmen, &c. in town and country.—CHAMBERS'S HISTORICAL NEWSPAPER, a Supplement to the present publication, is published on the first of every month; and CHAMBERS'S INFORMATION FOR THE PEOPLE, of which every number is a distinct subject of human knowledge, appears once every fortnight. Stereotyped by A. Kirkwood, Edinburgh. Printed by Bradbury and Evans (late T. Davison), Whitefriars.